APPARATUS FOR COLLECTING AND CONVERTING RADIANT ENERGY

Abstract. A radiant energy collecting and converting device having at least one array of slat-like concave reflective elements and an elongated receiver. The device efficiently concentrates and converts radiant energy, such as sunlight, to other useful types of energy, such as electricity and heat. The mirrored surfaces of reflective elements having appropriate individual profiles represented by curved and/or straight lines are positioned so that the energy portions reflected from individual surfaces are directed, focused, and superimposed on one another to cooperatively form a common focal region on the receiver. The mirrored surfaces are inclined towards one another at their rear ends facing the receiver and can be arranged to provide lens-like operation of the array. The receiver can be arranged in line photovoltaic cells or a tubular solar heat absorber.